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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,959	11/28/2000	Robert O. Dempcy	17682A-003610US	7793

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EXAMINER
CHAKRABARTI, ARUN K

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/724,959	Dempcy
Examiner	**Art Unit**
Arun Chakrabarti	1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Nov 5, 2002* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-109* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *95-103* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☒ Claims *1-94 and 104-109* are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 1
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Detailed Action*

DETAILED ACTION

Election/Restriction

1. Applicant's election of Group V, corresponding to claims 95-103, submitted on November 5, 2002, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 95, and 97-101 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. Patent No. 6,127,121. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-46 of U.S. Patent No. 6,127,121 discloses the method for primer extension by incubating a polynucleotide containing a target sequence with one or more oligonucleotide primers complementary to the target sequence, in the presence of a polymerizing enzyme and nucleotide substrate, wherein at least one of the oligonucleotide primers contains a modified base selected from an unsubstituted pyrazolo [3,4-d]pyrimidine, in place of a purine or pyrimidine base.

Claims 1-46 of U.S. Patent No. 6,127,121 further discloses the method, wherein at least one of the oligonucleotide primers comprises a covalently attached minor groove binder.

Claims 1-46 of U.S. Patent No. 6,127,121 further discloses the method, wherein the incubation is part of a polymerase chain amplification reaction.

Claims 1-46 of U.S. Patent No. 6,127,121 further discloses the method for determining the nucleotide sequence of a polynucleotide, the method comprising:

a) incubating the polynucleotide with a modified oligonucleotide array under hybridization conditions; and

b) determining to which of the modified oligonucleotides in the array the polynucleotide hybridizes;

wherein a plurality of the modified oligonucleotides comprise at least one 3-substituted pyrazolo [3,4-d]pyrimidine in place of a purine base.

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to use a method of nucleotide sequencing and amplification in order to achieve the express advantages of a novel probe comprising 3-substituted pyrazolo [3,4-d]pyrimidine in place of a purine base, particularly in the cases in which single- or multiple-nucleotide mismatch discrimination is required.

4. Claims 102 and 103 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. Patent No. 6,127,121 in view of Beattie (U.S. Patent 5,843,767) (December 1, 1998).

Claims 1-46 of U.S. Patent No. 6,127,121 discloses the method of claims 95, and 97-101 as described above.

Claims 1-46 of U.S. Patent No. 6,127,121 does not disclose the method, wherein the array comprises from 10 to 100,000 different modified oligonucleotides.

Beattie teaches the method, wherein the array comprises from 10 to 100,000 different modified oligonucleotides (Column 2, line 44 to Column 3, line 54, Example 7, Column 17, lines 9-28, and Example 11, Column 22, lines 1-18).

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to combine and substitute a method, wherein the array comprises from 10 to 100,000 different modified oligonucleotides of Beattie into the claims 1-46 of U.S. Patent No. 6,127,121, since Beattie states, "An improved microfabricated apparatus for conducting a multiplicity of individual and simultaneous binding reaction is described (Abstract, first sentence)." By employing scientific reasoning, an ordinary artisan would have combined and substituted a method, wherein the array comprises from 10 to 100,000 different modified oligonucleotides of Beattie into the claims 1-46 of U.S. Patent No. 6,127,121,, in order to improve the analysis of a plurality of target nucleic acid. An ordinary practitioner would have been motivated to combine and substitute a method, wherein the array comprises from 10 to 100,000 different modified oligonucleotides of Beattie into the claims 1-46 of U.S. Patent No. 6,127,121, in order to achieve the express advantages, as noted by Beattie, of an invention which provides an improved microfabricated apparatus for conducting a multiplicity of individual and simultaneous binding reaction.

5. Claim 96 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. Patent No. 6,127,121 in view of Caskey et al. (U.S. Patent 6,153,379) (November 28, 2000).

Claims 1-46 of U.S. Patent No. 6,127,121 discloses the method of claims 95, and 97-101 as described above.

Claims 1-46 of U.S. Patent No. 6,127,121 does not disclose the method, wherein one of the oligonucleotide primers is extended with a single base.

Caskey et al teaches the method, wherein one of the oligonucleotide primers is extended with a single base (Column 2, lines 12-15).

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to combine and substitute a method, wherein one of the oligonucleotide primers is extended with a single base of Caskey et al. into the claims 1-46 of U.S. Patent No. 6,127,121, since Caskey et al. state, "The current invention provides both direct information, due to the detection of a specific nucleotide addition, and indirect information, due to the known sequence of the annealed primer to which the specific base addition occurred (Column 3, lines 22-26). " By employing scientific reasoning, an ordinary artisan would have combined and substituted a method, wherein one of the oligonucleotide primers is extended with a single base of Caskey et al. into the claims 1-46 of U.S. Patent No. 6,127,121,, in order to improve the analysis of a plurality of target nucleic acid. An ordinary practitioner would have been motivated to combine and substitute a method, wherein one of the oligonucleotide primers is extended with a single base of Caskey et al. into the claims 1-46 of U.S. Patent No. 6,127,121, in order to achieve the express advantages , as noted by Caskey et al., of a novel invention that provides both direct information, due to the detection of a specific nucleotide addition, and indirect information, due to the known sequence of the annealed primer to which the specific base addition occurred.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti, Ph. D., whose telephone number is (703) 306-5818. The examiner can normally be reached on 7:00 AM-4:30 PM from Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703) 308-1119. The fax phone number for this Group is (703)746-4979.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group analyst Chantae Dessau whose telephone number is (703) 605-1237.

Arun Chakrabarti,

Patent Examiner,

April 8, 2003

ARUN K. CHAKRABARTI
PATENT EXAMINER